Claims

We claim:

1. A method for producing analgesia in a mammal experiencing pain comprising systemically administering an amount of a composition comprising a sodium channel blocking compound, in a suitable pharmaceutical vehicle, effective to alleviate the pain.

2. The method of claim 1, wherein the sodium channel blocking compound is one selected from the group consisting of tetrodotoxin, anhydrotetrodotoxin, tetrodaminotoxin,methoxytetrodotoxin,ethoxy-tetrodotoxin, deoxytetrodotoxin and tetrodonic acid.

3. The method of claim 1, wherein the systemic administration is performed by intramuscular injection, subcutaneous injection, intravenous injection, oral ingestion, sublingual ingestion, skin patch, implantable osmotic pump, collagen implant, aerosol inhalation, or suppository.

4. The method of claim 1, wherein the pain is caused by mechanical, chemical or ischemic stimulation, or inflammation.

5. The method of claim 1, wherein the pain is neuropathic pain.

6. The method of claim 1, wherein the pain arises from cancer.

7. The method of claim 1, wherein the sodium channel blocking compound is administered in a dose of 0.1 to 5 μg per kilogram body weight.

8. The method of claim 1, wherein the composition is administered in one or more doses per day during a treatment period.

9. The method of claim 1, wherein the sodium channel blocking compound does not cause drug dependence or addiction in the mammal.

10. The method of claim 1, wherein the mammal is a female of childbearing age.

11. The method of claim 1, wherein the sodium channel blocking compound does not have any non-reversible adverse effects.

12. The method of claim 1, wherein the sodium channel blocking compound does not produce local intramuscular irritation at the region where the systemic administration is performed.

13. The method of claim 1, wherein the sodium channel blocking compound does not produce any general hypersensitivity reaction in the mammal.

14. The method of claim 1, wherein the sodium channel blocking compound does not induce haemolyzation or vascular stimulation in the mammal.

15. The method of claim 3, wherein the injectable formulation is administered every 3-12 hours during a treatment period.

16. The method of claim 15, wherein the treatment period is 1 to 10 days, preferably 3 days.

17. The method of claim 15, wherein the treatment is repeated.

18. The method of claim 3, wherein said the administration is by injection and the composition comprises an acetic acid solution of tetrodotoxin.

19. The method of claim 1, wherein the sodium channel blocking compound comprises a tetrahydropurine moiety comprising two guanidine units fused together in a stable azaketal linkage, having a molecular formula $C_{10}H_{27}N_7O_4.2$--HCl, (mol. wt. 299.30) or a derivatives thereof.

20. The method of claim 19, wherein the sodium channel blocking compound is hydroxysaxitoxin or neosaxitoxin.

21. The method according to claim 6, wherein the pain arises from a cancer selected from the group consisting of liver cancer, rectal cancer, leiomyosarcoma, bone cancer, stomach cancer, lymphatic cancer, esophageal cancer, cancers in the genital organs, prostate cancer, digestive system cancer, stomach cancer, colon cancer, breast cancer, respiratory system cancer, lung cancer, bronchial cancer, urinary system cancer, lymphoma and skin cancer.

22. A composition comprising:

a pharmaceutical composition comprising a sodium channel blocking compound and a pharmaceutically acceptable carrier; and

written material describing systemic administration of the pharmaceutical composition to a subject for treatment of pain.